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NINTH JOINT PROGRESS REPORT BY THE SECRETARIATS OF OAU, ECA AND UNIDO ON THE IMPLEMENTATION OF THE PROGRAMME FOR THE INDUSTRIAL DEVELOPMENT DECADE FOR AFRICA*

* This document has not been edited.

INTRODUCTION

1. The purpose of this ninth joint progress report on the Industrial Development Decade for Africa (IDDA) is twofold. In part I, the report describes the status of implementation of the ongoing first IDDA highlighting salient developments since the eighth joint progress report. Part II gives an account of activities undertaken in preparation for a second Decade.

PART I
PROGRESS REPORT ON THE FIRST IDDA

2. The structure of this Part I is similar to that of the eighth joint progress report on the IDDA i.e. as recommended by the Conference of African Ministers of Industry at their eighth meeting held at Bujumbura (Burundi) in September 1986.

3. It is also consistant with that of the annual reports jointly submitted to the United Nations General Assembly by the Executive Secretary of the Economic Commission for Africa (ECA) and the Director-General of the United Nations Industrial Development Organization (UNIDO).

4. This part I of the report reviews the status of implementation of the Decade programme, focusing mainly on the activities carried out in 1989 and early 1990 by the Secretariats of ECA, UNIDO and the Organization of African Unity (OAU). It is subdivided into four main sections: Section I deals with inter-Secretariat co-operation for the accelerated implementation of the Decade programme integrating the latter with the priorities of the United Nations Programme of Action for African Economic Recovery and Development 1986-1990 (UNPAAERD) and of the African Memorandum on Industrial Development in Africa; section II reviews activities carried out in support of the programme for the Decade, the UNPAAERD and the African Memorandum on Industrial Development in Africa, with emphasis on programmes and projects implemented at the national, multinational, sub-regional and regional levels.

5. The report does not cover actions by Member States since related information was provided during the Ninth meeting of the Conference of African Ministers of Industry and the

preceding meeting of the Intergovernmental Committee of Experts of the Whole on Industrialization in Africa which took place at Harare (Zimbabwe) from 22 to 26 May and 29 May to 1 June 1989 respectively, as well as during the Third General Conference of UNIDO held in Vienna (Austria) from 20 to 24 November 1989.

6. Section III highlights the impact of projects implemented out within the framework of the Decade programme and analyses the constraints encountered.

7. Section IV advances proposals for accelerating the implementation of the IDDA programme.

Section I
Inter-Secretariat co-operation

8. The three Secretariats of the OAU, ECA and UNIDO intensified their co-operation during the reporting period in contributing to the implementation of the decisions of the various legislative organs as well as those of the Ninth Conference of African Ministers of Industry.

9. The Secretariats pursued their joint efforts in support of the mid-term evaluation of the IDDA until the completion of the evaluation report. This was submitted to the Ninth meeting of the Conference of African Ministers of Industry. The Secretariats had made their joint comments on the draft report and provided the evaluation team with guidance. The joint Steering Committee drawn from the Secretariats of the OAU, ECA, UNIDO and UNDP held its second meeting at Vienna (Austria) from 10 to 13 January 1989 and its third meeting from 6 to 10 March 1989 at the same venue. At these meetings the Committee reviewed the complete evaluation report prior to its finalization.

10. In order to intensify inter-Secretariat co-operation, the Secretariats participated in meetings of each other's legislative organs. They undertook joint preparations and submitted presentations to those organs on issues relating to the IDDA. They organized and serviced the Ninth Meeting of the Conference of African Ministers of Industry which was held in Harare (Zimbabwe) as well as the preceding meeting of the Intergovernmental Committee of Experts of the Whole on Industrialization in Africa.

11. Subsequently, they held consultations on an ad hoc meeting, held in Vienna in September 1989 on the implementation of the

decisions of the Ninth Meeting of the Conference of African Ministers of Industry, particularly resolution 2(IX) on the proclamation of a second IDDA. A distribution of work and responsibilities in undertaking preparatory activities for a second Decade was agreed upon and the related resources requirements were worked out. They held consultations on the Tenth Meeting of the Joint Committee of the Secretariats of the OAU, ECA and UNIDO on the IDDA to be held at Addis Ababa (Ethiopia) March 1990.

12. Special attention continued to be paid to the need for realigning IDDA-related activities with the priorities of UNPAAERD and the African Memorandum on Industrial Development in Africa. In implementing new approaches and activities in support of industrialization in the region, both ECA and UNIDO planned and carried out joint missions and studies in connection with such priority sub-sectors as the rehabilitation and development of agro- and agro-related industries. The specific integrated programme approach adopted last year and directed towards specific sub-sectors, primarily food-processing, fertilizers and pesticides, agricultural machinery, equipment and implements, and energy was pursued through well co-ordinated efforts. In particular ECA was involved in UNIDO's activities related to the application of the programme approach of programming selected agro-food industrial system in Africa (AFIS).

13. As in the past, the Secretariats actively co-operated in the preparations for and participation at the meetings of the OAU Permanent Steering Committee and of the United Nations Inter-agency Task Force on follow-up to the implementation of the UNPAAERD, as well as in the United Nations Steering Committee on the UNPAAERD. They contributed to the preparation of the United Nations Secretary-General's report as well as to the African submission to the meeting of the Ad hoc Committee of the Whole of the United Nations General Assembly on the review and appraisal of the UNPAAERD.

14. Pursuant to relevant resolutions of the United Nations General Assembly and the Economic and Social Council (ECOSOC), UNIDO presented two papers to the meeting of the Inter-Agency Task Force on the implementation of UNPAAERD held in Cairo (Egypt) from 9 to 15 January 1990. The papers highlighted further measures to accelerate the implementation of the UNPAAERD in the areas of food processing and industrial rehabilitation in Africa.

15. The promotion and implementation of the programme for the Decade was, as in the past, also facilitated by work of UNIDO Country Directors (UCDs) and Junior Professional Officers

(JPOs) in the region. In that connection and in keeping with the call to UNIDO and UNDP by African leaders and policy-makers to increase the number of UCDs and JPOs in Africa, UNIDO is reviewing the financial resources to increase the share of Africa up to 40 per cent of the entire UCD programme and therefore enhance the effectiveness of the programme in Africa. Furthermore, 9 additional JPOs assumed duty in Africa, bringing the total number of JPOs serving in the region to 31 in 1989.

Section II
Activities in support of the Programme for the Decade

16. In addition to the joint activities described above, the Secretariats of the OAU, ECA and UNIDO continued the process realignment as reflected in their various work programmes, programme realignment as reflected in their various work programmes, programme budgets and other policy documents. Emphasis continued to be placed on meeting the priorities established for the IDDA, APPER, UNPAAERD, the African Memorandum on Industrial Development in Africa, as well as enhancing the impact of those programmes.

17. Highest priority continued to be accorded to attaining self-sufficiency in food production, and to strengthening or establishing core industries and strong structural linkages between agriculture and industry through the provision of agricultural implements, fertilizers and pesticides, as well as the processing of food and other agricultural products.

18. In view of the need to pursue the efforts referred to above, the Third General Conference of UNIDO decided to include an allocation of $8.6 million in the 1990/1991 regular budget for the programme for the Decade out of which $883,900 have been earmarked for the preparation of a programme for the second IDDA.

19. UNIDO intensified its efforts to mobilize additional resources for IDDA and other special programmes for the African region, especially through the adoption of an integrated development programme approach and greater care in the identification and preparation of projects for consideration by special-purpose donors. Thus, technical assistance programmes amounting to $15,245,974 million, covering such sectors as leather and leather products, food and agro-industries, industrial rehabilitation and training were formulated and actively promoted among potential donors.

20. The integrated programme approach gave a sharper focus to the IDDA and UNPAAERD and contributed to improve the impact and

quality of UNIDO support to those programmes and increased volume of the Organization's assistance to Africa as a whole.

21. Mention is made hereunder of selected Secretariats' activities in support of the Decade undertaken during 1989. These include activities financed from the special allocation to the IDDA Programme, as well as activities that contributed to the objective of the IDDA, the UNPAAERD and the African Memorandum on Industrial Development in Africa. Further details are provided in the 1989 Annual Report of the Executive Secretary of the ECA, and in the 1989 Annual Report of the Director-General of UNIDO.

A. Direct support to industrial sub-sectors

22. In line with the priorities established in the IDDA Programme, the UNPAAERD and the African Memorandum on Industrial Development in Africa, the achievement of food self-sufficiency through increased food production and reduced food losses and wastages continued to be accorded the highest priority. Special emphasis was laid on the rehabilitation and expansion of food processing plants, the technological improvement of industrial food processing and the improvement of product quality. ECA continued its promotion activities in the areas of agro-industries. A technical publication on R & D on production and utilization of composite flour in Africa was prepared and distributed to member States.

23. Further activities aimed at the techno-economic improvement of existing food processing plants included rehabilitation. In this context, a sugar industry rehabilitation programme was started in Africa at present involving 12 countries (Angola, Burundi, Cameroon, Côte d'Ivoire, Ethiopia, Kenya, Mozambique, Nigeria, Senegal, Somalia, Togo and Zaire) and aimed at assessing and evaluating the sugar industries and leading to the formulation and implementation of relevant rehabilitation projects. In response to the need for programming UNIDO operations in specific food industry sub-sectors, particularly designed for IDF-financing, a framework was prepared for a global coconut processing industries development programme. This involves small-scale and industrial-scale coconut processing operations as well as product and market development activities for traditional and non-traditional coconut-based food and non-food products. Following the programme approach to define and formulate national priority food industry development projects requiring international co-operation including investment projects, special advisory services were provided to interested Government authorities. As a consequence, national food development centres were

initiated and are being developed in Zaire. In Egypt, operation of one such centre was even started.

24. Assistance was given to Angola and Mozambique in increasing the efficiency of the capacity utilization in a baker's yeast factory, flour milling and bakeries and in achieving an improved level of capacity utilization of other industrial infrastructures in the sub-sector. Advisory services were provided to the Government of the Congo on the establishment of two small units for baby food production and honey processing.

25. A pilot project was started in Senegal with the objective of integrating women in the processing activities of locally produced fruits and vegetables so as to add value to such products and increase their marketing. The Government of Mauritius was advised on the production of cigars for foreign markets.

26. In line with the world-wide trend the optimum utilization of agricultural raw materials played an important role in UNIDO activities and the up-grading of agro-industrial by-products and residues.

27. As a result of the contributions pledged last year by several donor countries the activities of the large-scale regional hides and skins, leather and leather products improvement scheme, including eight related country projects (Ethiopia, Kenya, Malawi, Somalia, Sudan, United Republic of Tanzania, Zambia and Zimbabwe) started in the East African sub-region with the Leather Development Centre at Nairobi, Kenya, as regional headquarters. A component related to the participation of women in the development of industries covered by the scheme was incorporated. Surveys were conducted in specific countries to identify suitable areas for complementarity, mainly machinery-oriented tannery rehabilitation programme for which the procurement of the required equipment was in progress.

28. ECA prepared two studies on the development of pulp and paper industries in selected Eastern and Southern African countries. The studies which were presented to the Ninth Meeting of the Conference of African Ministers of Industry surveyed the pulp and paper industries and projects and prospects for the rationalization and development of pulp and paper industry in Africa and made proposals on upgrading and/or expanding of existing facilities and, in some cases, establishing new ones.

29. The new approach of providing assistance to private industry proved to be most successful in the case of a private enterprise in the Arab Republic of Egypt which upgraded its

production to exportable standard footwear under a UNIDO subcontract with an internationally reknowned shoe manufacturer.

30. In recognition of the growing importance of environmental issues, special attention was given to pollution-preventive measures in all technical assistance to the tanning industry. In Burkina Faso, a project was started to deal with pollution control in the tannery industry and upgrading the existing "programme atelier". Assistance was given in the treatment of tannery waste and leather goods manufacturing and a regional training programme abroad in leather processing and machinery maintenance was completed. In Kenya, a fully equipped tanning pilot plant laboratory, effluent treatment unit and leather goods department were established and local staff trained both locally and abroad. These facilities now serve as basis for sub-regional activities of and related country projects in this area.

31. Similar projects were under implementation in Malawi for setting up a medium-scale, mechanized tannery and, in Mozambique, for the establishment of a rural semi-mechanized tannery in Tete and the upgrading of the country's shoe the manufacturing workshop. In Egypt, a seminar for upgrading shoe industry and technical capabilities of selected shoe factories was held in June 1989. A small shoe factory, Messrs. Abbouda, was selected and the main part of the assistance was carried out through sub-contract awarded to Bally Shoe Company (Switzerland). At the end of the project, a seminar was conducted to present the results to the Egyptian Leather and Footwear Trade. The project is operationally completed and Abbouda Shoe Company received the Bally License.

32. In Ethiopia, UNIDO assistance was initiated through sub-contracting with the objective of evaluating the existing designs of effluent treatment plants for two tanneries and suggesting modifications as required. The sub-contractor's team was fielded in early January 1990 and its findings would provide a basis for follow-up activities.

33. Similar assistance was given to the Leather Research Institute of Nigeria. In Tanzania, the assistance led to the establishment of a leather goods unit in Isanga, Mbeya which is managed by a group of women. Two regional projects were also started of which the first one covers eight countries in East Africa (Ethiopia, Kenya, Malawi, Somalia, Sudan, Tanzania, Zambia and Zimbabwe) and aims at hides and skins, leather and leather products improvement.

34. Under a second regional project involving seven countries in West and Central Africa (Burkina Faso, Burundi, Cameroon, Mali, Niger, Rwanda and Senegal), a fresh diagnosis focussing on ailing plants and training in hides and skins improvement and tannage was carried out.

35. In the engineering sub-sector industries, UNIDO technical co-operation activities in Africa focused on: rural development through the incorporation of agricultural implements and rural equipment under the metal sub-sector; application of appropriate technology to industry; new techniques in related to machine tools; spare parts manufacture for the transport industry; and equipment development for the energy sector.

36. The technical co-operation activities were supplemented by the provision of technical advisory services and other activities at national, sub-regional and regional levels, including intra-African industrial co-operation. In order to enhance the quality and impact of the IDDA programme, an integrated programme approach to the identification, formulation and promotion of projects in specific engineering related industries was initiated to lay the groundwork for the preparation of the programme for the 1990-1991 biennium. Special attention was given to the LDCs as most of them are also drought-stricken or adversely affected by natural catastrophes. This called for agricultural development and provision of engineering inputs in support of food and other agro-related production.

37. UNIDO intensified its effort geared towards the development of agricultural machinery in Africa. The main thrust of assistance continued to be the development and promotion of small- and medium-scale industries using locally available raw materials, and training in industrial and engineering techniques. Special attention was given to the problems related to the development and dissemination of appropriate food-processing equipment technologies for rural women, and research was carried out. Joint workshops aimed at engineering enterprise-to-enterprise co-operation among industrialized and developing countries were organized.

38. The trend in the sub-sector was to pursue an integrated approach to agricultural development by promoting local manufacture of agricultural tools, implements and equipment and establishing a sound relationship between agriculture and industry. The difficulty in maintaining and repairing agricultural machinery on the spot and the lack of transportation facilities for that purpose remains a major concern in the African region. This led to the strengthening of workshop facilities, which played a key role in providing maintenance and repair services, together with spare parts

manufacturing, and to the diversification of production capacities to include additional products, such as hand-pumps for water supply and silos which are of great value to the rural community.

39. A project on the strengthening of the Centre for Agricultural Mechanization and Rural Technology in the United Republic of Tanzania and a project involving the Société industrielle sahélienne de mécanique de matériels agricoles et de representation in Senegal within the above context. The project latter aimed at designing and manufacturing a machine for decorticating ground-nuts adapted to the local conditions of the Sahelian region. UNIDO contributed also to the implementation of the Regional network for Agricultural Machinery, assisted the African Regional Centre for Engineering Design and Manufacture (ARCEDEM) and co-operated with appropriate United Nations agencies and organizations. The initial study for the manufacture of agricultural tools, implements and fire machinery was prepared for the agricultural machinery factory situated in Soroti Uganda. This study will be used as a basis for the development of a large-scale project in co-operation with the United Nations Capital Development Fund. The most acute problem confronting many developing countries is maintenance, repair and spare parts production for agricultural tools and machinery. In Burkina Faso a project involving the establishment of three independent workshops for repair and spare parts manufacturing of tractors and different kinds of agricultural machinery was completed.

40. UNIDO assistance was provided in the area of institutional development. On the basis of a preparatory assistance project, a large-scale project for Kenya was approved, the purposes of which are to enhance the engineering capabilities of the Kenya Industrial Research and Development Institute and to provide technical services in the form of engineering design and prototype production, common engineering facilities and specialized training to selected public and private industries.

41. Repair and maintenance and training activities continued to be emphasized in all technical assistance activities. For example, in Angola, Madagascar, Senegal and Togo, specific maintenance and repair centres and workshops were established to help local industries to maintain their production machinery by introducing maintenance schemes and by producing spare parts locally.

42. ECA intensified its activities in support of industrial development in African countries. A sub-regional report in

four volumes on existing engineering industries in PTA countries was completed and distributed. Subsequently four model pre-feasibility reports on each on agricultural machinery, equipment and tractors, low cost engine driven road transport vehicles, machine tools and spare parts were completed and distributed. They were subsequently presented at the Ninth Meeting of the Committee on Industrial Co-operation of PTA held in October 1984 in Lusaka, Zambia. The model pre-feasibility reports are designed to provide member States with techno-economic data and information in usable terms and facilitate decision making on follow-up activities related to the industries concerned.

43. In line with the priority given to agricultural inputs in the UNPAAERD, a workshop and a seminar were organized on manufacturing of agricultural machinery and equipment in North African countries. Special attention was given to the proper utilization and improvement of the maintenance capacity of agricultural equipment.

44. In the metalworking and machine tools sub-sector, the major activities carried out were related to plant-level operations and the strengthening of national technical institutional capabilities. Greater utilization of machine tools has augmented productivity and improved quality.

45. With regard to developing technical institutional infrastructure, progress was made in the establishment of the Ethiopian Engineering Design Centre, Addis Ababa including civil engineering design. The introduction of CAD/CAM has further improved the quality and service life of specific tools, such as moulds and dies and resulted in higher productivity in industries located in Tunisia. In Angola, Madagascar, Senegal and Togo specific maintenance and repair centres and workshops were established with the aim to serve local industries to maintain their production machinery by introducing maintenance schemes and by locally producing spare parts.

46. In the electrical, electronics and high technology industries rapid progress in the implementation of projects dealing with advanced technologies particularly in the electrical and electronics machinery and equipment sector was achieved. In the electrical sub-sector, projects involving product development, vacuum technology and high-rupture capacity fuses were initiated in Egypt. New technical co-operation projects in the electronics industry launched in Egypt dealt with micro-electronics in the manufacturing processes, computerized data acquisition and open-loop process control systems.

47. In the transport equipment industry, co-operative and joint programmes were carried out by FAO/UNIDO Joint Technical

Working group on the development of fisheries. An agreement between IMO and UNIDO led to joint programmes for the development of boat building and marine engineering as well as safety rules for transport cargo and fishing vessels. ILO/UNIDO working sessions were held in the area of training of personnel for transport and shipbuilding. Joint programmes/projects were conducted with the African Railway Union and other engineering associations/companies.

48. In the field of energy engineering applications UNIDO's activities continued to cover the areas of conventional and new and renewable sources of energy. In the area of conventional energy emphasis was placed on industrial energy efficiency, energy conservation measure and related equipment. A project was initiated in Egypt for the manufacture and testing of wind turbines for generating electricity on a large scale. A project in Sao Tomé and Principe for the development of small and mini-hydropower facilities was launched. Local production of solar water heaters and related components was carried out in Madagascar and Sierra Leone and the installations have demonstrated appreciable savings in fuel oil. In Madagascar a project has developed local capabilities for the manufacture/assembly of small hydropower equipment and components. In the areas of conventional and renewable and new sources of energy; emphasis was placed on the local manufacturing of components and assemblies. In Egypt, prototype components for wind turbines generating electricity were produced and will be tested on large-scale.

49. In the packaging industry, UNIDO's assistance to packaging materials converter industries as well as to package producer and user industries was provided. As associate agency UNIDO, in co-operation with the International Trade Centre, took part in the implementation of a project in Tunisia on improvement and mastering the quality of export packaging.

50. One of the main components of technical assistance delivered was the creation and strengthening of packaging research and development capabilities by establishing and upgrading national packaging centres or units and offering local assistance in packaging technology and quality control to interested packaging manufacturer and user industries. Tunisia received this type of assistance within the framework of operational projects.

51. In the metallurgical industry UNIDO continued to pay special attention to the introduction and adaptation of new technologies in metallurgical technical co-operation activities with a view to ensuring rationalization and

improved product quality, management of material and energy resources as well as solutions to pressing environmental problems, through increased waste utilization. Emphasis was placed on the application of new and advanced technologies. In Egypt introduction of new technology for the production of new steels in basic oxygen furnace resulted in reduced wastes and energy savings. Projects aimed at the transfer of technology and rehabilitation, restructuring and modernization of existing production units were promoted. Increased activities related to the establishment of small-scale metallurgical operations, such as mini steel plants based on low grade or non-coking coal, e.g. the establishment of a pilot and demonstration sponge iron plant in Zambia, were carried out.

52. ECA prepared a technical publication on the status and Perspectives for Production of Flat Steel Products in Africa. The publication was designed to encourage the production of a range of essential inputs for the engineering industries. In addition, a report was prepared on Problems and Perspectives on Intra-African Co-operation Policy in the Field of Metallurgy for the "Colloque International Sur le Thème : Problèmes et Perspectives de l'Industrie Miniere en Afrique" which took place from 12 to 14 September 1989 in Paris, France.

53. UNIDO assisted the Preferential trade Area for Eastern and Sourhern African States (PTA) in the establishment of a rehabilitation programme of existing iron and steel plants and rolling mills. It fielded consultants to plants in Angola, Ethiopia, Kenya, Mauritius, Mozambique and the United Republic of Tanzania to improve metallurgical operating techniques. To promote TCDC, another African regional project concentrated on providing technical assistance to a selected steel plant the Rolmill Kenya Ltd. and in the PTA region; and strengthening the technological capabilities, management and operations through the provision of expertise, equipment and on-the-job training by the Zimbabwe Iron and Steel Company (ZISCOSTEEL). ZISCOSTEEL in turn, with the technical assistance of UNDP/UNIDO, strengthened its role as leading iron and steel plant in the sub-region.

54. In Algeria, a large-scale project for modern quality process control became operational.

55. The production of spare parts was encouraged in the United Republic of Tanzania for the PTA countries by providing technical assistance for conducting metallurgical/metallographical, chemical and dimensional analyses of metal parts with a view to providing users with

full specifications and drawings and to inducing private industry to set up viable projects. Important projects for the foundry industry proposing large-scale operation and for detailed market studies and recommendations for the establishment of foundries were pursued in Ethiopia. Co-operation with the African Regional Centre for Engineering Design and Manufacture (ARCEDEM) continued through the joint organization of a workshop on core metallurgical industries held in Hungary in October 1989.

56. The above workshop was the fifth of its kind, the workshop was attended by 24 participants from African countries, including Algeria, Benin, Burundi, Cameroon, Congo, Côte d'Ivoire, Ghana, Kenya, Nigeria, Senegal, Sierra Leone, Sudan, Swaziland, Tanzania, Uganda, Zaire and Zambia as well as two operational directors from ARCEDEM. The workshop placed special emphasis on manufacturing of agro-related industrial machines, equipment and hand-tools, preventive repair and maintenance, small scale production, light weight structure manufacture, manufacturing of parts and spares, investment casting and other foundry operations. It was agreed that future programmes, yet to be elaborated, should cover more specific and specialized training in areas of special concern to core metallurgical and engineering sectors for technicians and engineers, to be carried out with Hungarian assistance.

57. ECA continued backstopping ARCEDEM in preparing for and conducting seminars and study tours, training courses at the headquarters in Ibadan, Nigeria and in procurement of hand tools, machinery and equipment for different workshops.

58. UNIDO organized a workshop on the Establishment of a Metallurgical Technology Centre for PTA countries. In addition to experts from these three countries, the workshop held in Lusaka in October 1989 was attended by experts from the PTA Steering Committee on the Metallurgical Sector, including Zimbabwe, Zambia, Tanzania, Uganda, ECA and UNIDO and other PTA experts. It came up with a phased development programme for the establishment in Zimbabwe of the Metallurgical Technology Centre incorporating existing Metallurgical Technology Centres in the Region. The centre would aim at self-generating metallurgical know-how in the PTA area. UNIDO drew on the experience gained in India, Egypt and Nigeria where assistance had been provided to establish such centres.

59. A high-level steering group comprising representatives from selected PTA countries and the metallurgical technology centre in Egypt, previously assisted by UNDP/UNIDO, worked out a five year programme for the establishment of a regional

metallurgical technology centre. Project activities for the large-scale project, the National Metallurgical Development Centre in Niger, were planned.

60. UNIDO assistance to the PTA region also covered the development and rationalization of selected small-scale steel plants in the sub-region; and the preparation of a plan of action to rehabilitate iron and steel plants as well as selected steel plants in the PTA sub-region.

61. UNIDO continued implementation of its intercountry programme for managed maintenance systems in metallurgical and other industries in Africa which included the organization of workshops and the pilot programmes.

62. UNIDO pursued its assistance to ZISCOSTEEL in Zimbabwe in improvement of metallurgical quality control and modernization of electrical automatical and technological equipment of the bar rod rolling mill.

63. Under a UNIDO project, a team of ZISCOSTEEL experts assessed the existing metallurgical industries in Angola, Ethiopia and Mozambique and offered concrete technical operational assistance.

64. During 1988/89 several short term technical advisory missions were undertaken which identified projects covering engineering industries, introduction of managed maintenance systems in iron and steel and other metallurgical plants, the establishment of pilot and demonstration plants for the production of sponge iron and other activities for the establishment of mini steel plants. Countries covered included Botswana, Burundi, Ethiopia, Ghana, Kenya, Liberia, Malawi, Rwanda, Sierra Leone, Somalia, Sudan, Tanzania, Uganda, Zambia, Zimbabwe.

65. In the chemical industry, special attention continued to be paid to the building materials and construction in UNIDO activities. Technical and management assistance was given to cement factories in Egypt, Nigeria and Libyan Arab Jamahiriya with the objective of achieving improved capacity utilization rates and more efficient operation.

66. UNIDO provided technical support to the cement industry in selected PTA countries during short advisory missions undertaken under a regional project. The project activities focused during 1989 on improving maintenance of factory and training of local personnel. UNIDO pursued its efforts to promote the development of small-scale lime industry in several African countries.

67. Projects in Chad and Madagascar generated considerable interest in the low-cost housing sector for building materials based exclusively on local raw materials manufactured using inexpensive equipment which in Madagascar is now being locally produced based on designs developed within the project. In these and other projects the emphasis was on support to private entrepreneurs.

68. ECA emphasized the development and popularization of local building materials. A study on an African Regional Programme on Applied Research and Development of Building Materials and Construction Industries was undertaken with a view to identifying the potential for the development of building materials. Survey and assessment missions were carried out to selected African countries and led to the preparation of project RAF/87/016/A/01/51 on the development of building materials and building industry in Africa and submitted to UNDP for financing.

69. In the fertilizer industry, UNIDO assistance was provided to Mauritania to investigate the economic and technical viability of exploration of phosphate rock deposits in Mauritania.

70. UNIDO continued to concentrate its efforts on the provision of assistance in the development, distribution and application of fertilizers, which are crucial inputs to the development of food and agricultural production. Comprehensive assistance was given to Egypt in the promotion of production of NPK fertilizers in the country.

71. UNIDO undertook a study on "Development of fertilizer industry in Nigeria". This focused on a review of projected demand for fertilizers, Government policies, plans and programmes for fertilizer industry. Recommendations and a number of scenarios for development of the fertilizer industry were made to the Government, resulting in a request for fertilizer marketing study.

72. Consultancy work was also undertaken in Mauritania to investigate the feasibility of setting-up a phosphoric acid production plant based on local raw materials. A number of alternatives were proposed to the Government for the development of the phosphate fertilizer industry in Mauritania for the decision making.

73. UNIDO provided consultancy services to the Government of Sudan to investigate and appraise the status of the Sudan N-Ren amonia/urea plant. Conclusions along with UNIDO proposals on possible solutions for revitalizing of the plant were submitted for the Government consideration.

74. A full scale UNIDO project on the establishment of tetanus vaccines plant, the first of its type in Africa, is nearing completion in Cameroon. The project will enable the country to produce 14.4 million doses of tetanus toxoid vaccine adsorbed and Diphtheria-Pertussis-Tetanus vaccine adsorbed in conformity with WhO requirements. As a follow-up to this project, the establishment of a bacterial vaccine production unit for Diphtheria toxoid and Pertussis suspension for replacement of presenrly imported vaccinee in bulk was recommended.

75. UNIDO initiated a project in Zanzibar on the rehabilitation of the clove oil distillery through the training of personnel and supply of crucial spare parts. The strengthening of the Centre National de Recherches Pharmaceutiques and the pilot plant now available in Madagascar resulted in an increased cultivation of medicinal and aromatic plants by local farmers which encouraged the extension of the project by UNDP to enable further processing technology transfer.

76. An egg-tray moulding machine was successfully started up in Botswana using waste paper. A local paper filler production was erected in Burma. A rehabilitation programme for a Nigerian pulp/paper mill was initiated.

77. In Tanzania, UNIDO's technical advice on acquisition of the proven know-how in pesticide production and formulation and better effluent control measures was very much appreciated by the Tanzania Government.

78. A UNIDO preparatory assistance project was completed to assist PTA countries in developing mobile seed treaters specially suited for the small- to medium-scale farmers. A project proposal for the follow-up phase is under way.

79. The production of higher-valued salt by-product became a new area in UNIDO's activities related to the basic chemical industry. Potassium and magnesium-based products produced from salt brines are under investigation in Egypt. A manual on the technology of growing artemia cysts - a biomass used for fodder in fish-ponds - was prepared and distributed in English speaking countries and a french version is under preparation. There is also a new interest in developing countries to use local salt lakes for the production of salt and soda ash (Djibouti).

80. In the small-scale industry sub-sector, the promotion and development of small- and medium-scale industries (SMIs) continued to be a high priority area. UNIDO technical co-operation in this field continued to follow an integrated and comprehensive modular approach with three levels of intervention, i.e. policy, institutional and enterprise

levels. Such technical co-operation with focus on institutional building aimed at transferring expertise and improving capacities to enable local institutions engaged in the promotion of SMIs to provide technical services and facilities for their development and upgrading. For example, in Mozambique an integrated package of technical co-operation was provided at three levels: first institution building concerned with strengthening the capacity of IDIL (Instituto Nacional de Desenvolvimento de Industria Local) in responding to the needs of small-scale industries, secondly direct support at the enterprise level through the rehabilitation of ten small-scale industries as pilot demonstration projects, and thirdly at the policy level through a business environment study carried out by the World Bank under an interagency subcontracting agreement, which provided a policy framework for small and medium industry development with a concrete set of measures. Assistance was also provided to financial institutions to strengthen their capacity to promote SMIs.

81. Another major portion of technical co-operation under the SMI programme is industrial estate development and management. In this field technical assistance was provided to Kenya Industrial Estates Ltd.

82. ECA's efforts geared towards the development and promotion of small-scale industries were intensified. Assistance was provided to African entrepreneurs in the area with a view to improving their management capabilities. A portfolio of project profiles on small-scale industries was prepared and presented to the Regional Seminar for Entrepreneurs in Agro and Agro-allied Small-scale Industries which was held in Abidjan, Côte d'Ivoire from 11-15 December 1989.

83. UNIDO also launched a programme for the promotion of international partnership agreements between SMIs from Belgium, Morocco and Thailand with a financial contribution from the Belgian Government and a special financial allocation from the EEC ("Cheysson" facility). This programme supplements credit lines granted by the Belgian Government to development organizations or banks in these countries for loans to SMI's entering into co-operation agreements with Belgian partners.

84. UNIDO work programme in the field of rural industrial development continued its activities that aimed at establishing the necessary institutional framework for co-ordinating technical assistance from various organizations to the rural small-scale sector; setting up policy-advisory units, strengthening functional organizations and interface

of promotional and credit institutions and developing management skills of small-scale industry entrepreneurs.

85. Establishment of a number of village industries continued to take place in rural areas in countries such as Guinea, Madagascar and Zambia, particularly in small-scale food processing for domestic consumption as well as for export market. For example, a pilot project of goose liver paste for export was under preparation in Madagascar which promises substantial innovation and success for rural industry.

86. In recognition of the role of rural industrial development, UNIDO's work concentrated also on exploring and promoting ways of integrating industrial, agricultural and rural development with a view to creating opportunities for non-farm employment, improving and developing infrastructure in rural areas and enhancing rural development through further inter-agency co-operation. In this respect, 14 technical assistance projects were executed in eight African countries (Guinea Bissau, Guinea, Madagascar, Rwanda, Tanzania, Liberia, Zambia and Sierra Leone).

B. Major factors input

Natural resources and energy

87. In order to promote self-sustained industrial development, UNIDO has continued its efforts towards assisting in the development of the resource base of African countries.

88. In the field of energy, a regional workshop on energy conservation in industry was held in Egypt for participants from ten African countries within the IDDA programme of UNIDO. The workshop focused on identifying the most effective ways to develop industrial energy conservation policies, familiarizing participants with related modern technologies and measures; and exchanging information and experience among participating countries. In the recommendations of the workshop, the participants requested UNIDO's assistance in strengthening regional co-operation in energy conservation with the following specific objectives: building-up the necessary manpower resources; designing and implementing pilot energy conservation systems at the plant level in one or two energy-intensive industrial sub-sectors; and setting-up of the African regional industrial energy conservation information network. This would be designed on the basis of existing institutions in African countries with experience in this area (Algeria, egypt, Tunisia, Zambia).

89. A number of proposals for technical co-operation projects were prepared, targeting energy conservation, utilization of new and renewable sources of energy, and use of innovative low and non-waste technologies for energy production. Some of them, including proposals on strengthening the capacity of the Industrial Energy Conservation Centre in Egypt, were submitted for the consideration of UNDP and the Governments. Various reports on energy-related activities of UNIDO were prepared and submitted to UN meetings and international symposia as inputs to strengthen future co-operation among organizations involved in the area of energy, vital to industrial development.

Industrial technology and related services

90. UNIDO stepped up further its efforts directed towards technology promotion and indigenous technological capability development in order to enhance the technological base and potential of African countries. In this respect, an International Forum on Appropriate Industrial Technology was held in Dakar (Senegal), from 6 to 10 November 1989, with the objective of providing appropriate industrial technology inputs for the second IDDA by defining and establishing mechanisms and processes in the field of technology development in the african countries. The main task was to examine the technology policy framework within which these mechanisms might be applied to enhance development in agro-industries and fisheries, particularly in the areas of food production and post harvest losses.

91. UNIDO pursued its assistance to African countries in formulating and implementing technology policies and improving their capabilities to acquire and negotiate foreign technologies under equitable terms and conditions suitable to local environment. In this connection, UNIDO organized three workshops on technology policy: in Ghana (February 1989), Tanzania (March 1989) and Tunisia (October 1989) which focused on the implementation of science and technology policies and on the integration of technology policy plans in the overall development objectives of the host countries.

92. UNIDO enhanced its advisory services delivery related to improving the negotiation skills of Government officials and public and private entrepreneurs of developing countries.

93. An innovative component of the workshops and seminars for negotiators was the provision of direct advice, on a confidential basis, on contracts that the participants had under negotiation. Three workshops of this kind were organized in Madagascar (January 1989), Ethiopia (November

1988) and Ghana (December 1988) in connection with the African-TIES Meeting. They served to introduce the Training Manual on Technology Transfer Negotiations which was under preparation and to pave the way for institutionalizing training courses for African negotiators.

94. Advisory assistance was also provided from headquarters as well as during field missions. The Government of Rwanda was assisted in the choice of processes, preparation of tender documents, evaluation of offers, drafting of contractual arrangements and selection of suppliers for a banana processing plant.

95. Assistance was also given to the national steel company in Algeria in the acquisition of a steel complex. This was related to a major project (about $1 billion of investment) and required an extensive programme of assistance involving about ten experts in different specialized areas and subjects like assessment of technological options, evaluation of offers, drafting and negotiation of contractual documents, assistance in marketing aspects of raw materials for the complex and, negotiation of financing arrangements.

96. UNIDO further developed its African-TIES (Technological Information Exchange System) bringing the number of participating countries from five in 1985 to twelve in 1988. UNIDO concentrated its efforts on the provision of technical assistance in technology acquisition and negotiation. In Nigeria, a large scale UNDP-financed project is underway with the objective of creating advisory, monitoring and development units as well as training of staff with the national transfer of technology office of Nigeria - NOTAP. In Ethiopia, assistance was given for the installation of CORIS software at the Development Projects Studies Authority as a tool to handle information related to transfer of technology contracts and to evaluate the technology flows into the country. Extensive assistance was provided to the Ghanaian authorities, including the installation of CORIS software in the Technology Transfer Centre of Ghana, the preparation of guidelines on the acquisition of foreign technologies and the establishment of bilateral co-operative arrangement with other African institutions within the framework for the African-TIES. As a follow-up of the Technology Policy Workshop (March 1988), a mission was organized with a view to studying the regulatory and institutional framework on technology transfer in Tanzania and formulating a detailed work programme for setting-up a national centre for the development and transfer of technology.

Development of human resources and managerial skills

97. In keeping with the high priority accorded in the IDDA programme to the development of human resources for industrialization, UNIDO training programmes continued to respond to the need of African countries to develop wide-ranging skills and capabilities required to undertake the tasks involved in industrial development. UNIDO's efforts continued to be concentrated on upgrading the institutional capacities of the countries in the field of human resource development. A pilot training centre was established at the Centre Ivorien pour la Gestion des Entreprises (CIGE) which enabled the training of 140 women entrepreneurs in aspects relating to human resource development, management and organization.

98. As part of UNIDO institution building activities, the Centre Africain d'Etudes Superieures en Gestion (CESAG) in Côte d'Ivoire had its capabilities strengthened from the pedagogical standpoints through the training of trainers programmes as an integral part thereof.

99. A similar activity with a phasis on training of trainers in training methods and techniques was carried out in co-operation with the Economic Community for West African States (ECOWAS) for English-speaking countries. This included inter-alia the strengthening of the training capabilities of two Nigerian training institutions, namely the Centre for Management Development (CMD) and the Centre for Industrial Research and Development (CIRD). In this connection, courses were held for computer trainers and key industrialists from ECOWAS countries in Nigeria.

100. The strengthening of training capabilities for the development of planned maintenance systems in the Eastern and Southern African Preferential Trade Area (PTA) was accelerated with emphasis on the training of trainers and the development of a training strategy as part of systematic training.

101. As part of UNIDO's efforts to ensure that the countries' human resources development programmes are tailored to the needs of their industrialization needs, an industry-university linkage was established between the Ecole Mohammadia d'Ingénieurs in Morocco and industry. UNIDO established within the framework of this university a new programme in the field of industrial maintenance and repair not only for Morocco but also for Arab-speaking countries. The latter programme was jointly organized with the Arab Industrial Development Organization.

102. The programme relating to maintenance and repair of small- and medium-size ships, which previously was held only in Belgium, was expanded in 1988 to include an important component in a developing country, namely Morocco.

103. Furthermore, the maintenance and repair programme carried out with the Union of African Railways (UAR) was expanded to cover decision makers and managers responsible for the rehabilitation of rolling stock equipment.

104. In the area of policies and strategies for the development of human resources a proposal for PTA countries was prepared as incorporated in the report on the economic integration of the PTA subregion.

Women and industrial development

105. Given the crucial role of women in industrial development in Africa countries, special emphasis continued to be placed on UNIDO's programmes and activities aimed at promoting the integration and participation of women in the industrialization efforts of the continent.

106. UNIDO's work in this area included assistance for the creation at the establishment within the Centre Ivoirien de Gestion d'Entreprises of a pilot training unit to provide training and support to women entrepreneurs from French-speaking West African countries in the areas of small- and medium-scale enterprises management. One hundred forty-seven women entrepreneurs, industrialists, owners, leaders and managers from Senegal, Guinea, Benin, Togo, Cap Verde, Mali, Niger, Burkina Faso, Mauritania and Cote d'Ivoire were trained.

107. Advisory services were provided to Governments on policy-measures and specific projects to promote the integration of women in industrial development.

108. UNIDO carried out a study for the Government of Zimbabwe on the Current and Potential Contribution of Women to Human Resource Development for Industry. Particular emphasis was put on future skills requirements of Zimbabwe's industrial sector and the training needs of women to meet those requirements. A National Symposium was held early June 1989 to discuss the study findings. The Symposium adopted an Action Plan as a basis for a consistent national programme for the enhancement of women in the country's industrial development and as a basis for international co-operation.

109. Two advisory missions on the integration of women in industrial development were undertaken, one to Guinea and one to Chad. The missions to Guinea made policy recommendations

and proposed specific projects to upgrade technologies used by rural women.

110. A three-week exploratory mission was undertaken to Chad to identify areas of assistance to the Chadian women in the artisanal and agro-industrial sector. Findings indicted that women's economic participation was still relatively low and mainly limited to the traditional and informal sector, especially in processing and conserving agricultural produce. These women have inadequate access to credit and advisory services. As a result, a scheme was proposed to give special business advisory services to women, focusing on administration, management and food processing technologies the sector where women are traditionally most active.

111. UNIDO's efforts were also concentrated on the processing technologies for rural women which is a primary objective for any policy designed to integrate women in development, aiming both at alleviating women's daily work and contributing to the generation of income. Surveys were undertaken and a number of pilot projects developed.

112. On the basis of the missions' findings a project document for follow-up was elaborated. It has thus a two-pronged strategy with a technical and a sociological component. The objective of this pilot project was to develop and field-test a concept which can, in a later phase, be disseminated to the whole Sahelian region. It is expected that funds for the pilot project will become available from IFAD.

113. An exploratory mission was also undertaken to Burkina Faso, Mali, Niger and Senegal to look into drying techniques used by rural women. As a result a project proposal was formulated to upgrade the drying process for fruits and vegetables from the current traditional level to a commercially exploitable production process. The project would be initiated in Senegal under a Trust Fund Agreement with the Government of Japan. It is hoped that the process can subsequently be introduced to Mali, Burkina Faso and Niger.

114. A study tour by Guinean women to Mali was sponsored to enable them to study the operation of a shea butter press that had been successfully introduced to Malian villages. The result was a project aiming at transferring, on a pilot basis, three such presses to Guinea. The project foresees the introduction of an accompanying credit scheme based on traditional savings associations; the project would also co-operate with UNIDO project DP/GUI/82/009 "Centre Pilote d'Entretien et Reparation des Equipments Industriels" to develop a maintenance system for the local production of the press in Guinea, should the

transfer of this technology prove successful in the pilot project.

115. An exploratory mission was undertaken to Guinea to investigate the viability of upgrading salt production using solar evaporation techniques. A pilot project was elaborated which would test the viability of adapting solar evaporation techniques, introduced by UNIDO to the Gambia and to Niger, to climatic conditions at three different locations of the Guinean coast. Funding was secured under a Trust Fund from the Government of Japan. A project was under implementation in Nigeria to assist women of the Plateau State to improve salt production technologies financed by UNDP.

116. Under the Trust Fund contribution from the Government of Japan a pilot fruit processing plan for rural women at cottage industry level was being installed in Zambia.

117. UNIDO continued to place a major emphasis on entrepreneurial and managerial skill development for women entrepreneurs.

118. A project to provide business advisory services to women was under implementation in Malawi. The Government of Malawi was committed to stimulating small- and medium-scale domestic enterprise development and attached importance to enhancing the direct participation of women to develop small- and medium-scale industries evidenced by their good credit repayment performance and their entrepreneurial ability. However, the development of this potential was hampered by the absence of a focus of technical and management expertise on which women could draw to guide their operations. This project therefore aims, inter-alia, at co-ordinating the activities of organizations and institutions involved in small- and medium-scale enterprises and sensitizing them to women's needs.

119. In pursuance of efforts to assist training institutions in developing countries to provide managerial and entrepreneurial skill development training to women, UNIDO, in co-operation with the Pan African Institute for Development - Eastern and Southern Africa (PAID-ESA), developed a training programme in food processing for women entrepreneurs under a Trust Fund Agreement with the Government of Norway. The programme which is based on a need assessment and curriculum development workshop concentrates on three elements - entrepreneurship, management and food processing technology. Training materials including trainers manuals, hand outs and work books were developed and initially field tested in January/February 1989 in Zambia, in co-operation with PAID-ESA, the Cranfield School of Management, UK, and the Intermediate Technology Development Group, UK.

C. Other activities

Industrial policy and planning

120. ECA prepared a study on industrial protection policies which, inter alia, provided guidelines in the formulation and implementation of protection measures in favor of African infant industries at national, sub-regional and regional levels.

121. UNIDO's approach to assistance in industrial planning was based and focused on the new concept of strategic management of industrial development. This involves a drift away from the traditional idea of preparing blue-prints for future industrial production in order to place the emphasis on decision making under conditions of uncertainty and efficient co-operation between the public and private sectors, therefore taking due account of the environment of rapid international and external structural changes.

122. Based on the above approach, assistance continued to be given to Cameroon, Côte d'Ivoire, Guinea, Senegal and Sierra Leone covering the preparation of an industrial survey; the identification of priority sub-sectors; in-depth diagnosis of sub-sectors and formulation of strategies and action programmes for each sub-sector by consultative groups which include both public and private sector actors from the various sub-sectors.

123. In Côte d'Ivoire, UNIDO project would result in the formulation of support programmes to industrial sub-sectors and thereby lay a basis for expanded technical assistance in the form of rehabilitation measures, support to infrastructure, feasibility studies and technological co-operation.

124. In order to sum up the experience gained in industrial restructuring process in Africa, a regional workshop on the strategic management process in the industrial sector in Africa was held in Vienna in December 1989. Representatives from most African countries and international and regional institutions working in Africa participated in the evaluation of policies impacting the adjustment process and expressed strong interest in the strategic management approach as a means of enhancing growth and competitiveness.

Industrial studies and research

125. In response to the economic and industrial crisis facing Africa, UNIDO formulated an integrated multi-disciplinary

approach to the problem of industrial rehabilitation in Africa. Keeping in mind the complexity of the rehabilitation issues, UNIDO's policy activities took place at all relevant levels:

- At the macro-industrial policy level in order to remove major obstacles to industrial development;
- At the sub-sectoral level that encompasses enterprises engaged in similar and interrelated manufacturing activities;
- At the enterprise and plant levels in order to cope with critical bottlenecks identified in co-operation with Government authorities.

126. The overall emphasis was on agro-industries not only because at present these industries dominate African manufacturing but also because they would be a key element in attempts to diversify exports. They would also continue to play an essential role in improving the supply of basic consumer goods to African populations.

127. Within the UNIDO programme, emphasis of the work carried out was also on the regional, country and macro-industrial level. With regard to Africa, its work during the 1988/1989 biennium is reflected in two series of publications: special reports on industrial rehabilitation comprising full-length country studies and containing confidential plant-level information, and more general studies on the rehabilitation of African industry.

128. Five in-depth rehabilitation studies were completed by UNIDO covering Angola, Liberia, Morocco, Tanzania and Zambia, countries which were chosen in such a way as to represent the geographic, linguistic and regional groupings in Africa. At the plant level, the survey considered the rehabilitation of four selected plants in each country. Findings and recommendations of country rehabilitation studies formed a basis for identification of technical assistance and investment projects.

129. The rehabilitation studies served as a first step - a "pilot project" - in the long process toward ultimate rehabilitation. Full feasibility studies must be conducted as a follow-up to provide effective guidelines for subsequent implementation. The studies also served as the starting point for two meetings on rehabilitation issues and projects identified in the reports. The first meeting, held in Lusaka (Zambia), provided the opportunity for representatives of the Zambian Government, individual firms, UNIDO, the World Bank, banking institutions, multilateral and bilateral organizations to determine the

follow-up action, which is technical co-operation and assistance. The second meeting, held at UNIDO Headquarters, Vienna (Austria) provided an informal briefing to selected representatives of Permanent Missions based in Vienna on UNIDO's integrated programme approach to rehabilitation with a view to eliciting the co-operation, guidance and support of member countries in the follow-up activities.

130. UNIDO continued to initiate and promote institution building projects aimed at strengthening national capabilities in the art of identifying, preparing and evaluating good quality industrial feasibility studies. This type of assistance, in order to be effective, needs to be carried out over a period of several years. Positive results were achieved in strengthening the infrastructure of various institutions and in upgrading human capabilities by introducing up-to-date techniques and quality work in the preparation and appraisal of industrial feasibility studies. Through rational decision making the proper allocation of scarce resources could be assured. Projects of this nature were carried out in Algeria, Cameroon, Ethiopia, Madagascar, Zambia.

131. In order to respond more actively to requests for technical assistance to Development Finance Institutions (DFIs), a programme was designed to meet the extended needs for modern, commercially-oriented and profit-making application of financing methods with a view to reducing the notoriously heavy debt burden of the developing countries. Such programmes were designed and implemented at the Ghana National Investment Bank, the West African Development Bank, the Eastern and Southern Trade and Development Bank (PTA), the Zimbabwe Development Bank and the Nigerian Industrial Development Bank. Four others were in advanced stages of preparation. A number of DFIs in African countries are licensees of the UNIDO developed computer software "COMFAR" which was applied by them for economic appraisal of feasibility and rehabilitation studies.

132. Special attention was also given to activities in African countries. In addition to several training projects, individual pre-investment studies were carried out under the Short-term Advisory Services (STAS) in Zaire and Zambia as well as a regional study on modern, low-cost technologies covering a group of West African countries.

133. A study was prepared by ECA on the basic issues of the under-utilization of installed industrial capacity which revealed the main weaknesses of Africa's industries in the areas of planning, pre-feasibility and feasibility studies, supply of equipment and other inputs, manpower and management.

Popularization of the IDDA

134. A UNIDO study on the proclamation of an Africa Industrialization Day prepared in consultation with OAU and ECA was submitted to the Ninth Meeting of the Conference of African Ministers of Industry. The meeting endorsed the recommendations of the report and adopted resolution 2(IX) on the proclamation of a second IDDA and 20 November as Africa Industrialization Day (AID).

135. In response to the above, the United Nations General Assembly made that proclamation in its resolution 44/237 on the second Decade adopted on 22 December 1989. Consultations on modalities for the commemoration of the AID are planned to be held between the Secretariats of the OAU, ECA and UNIDO in March 1990.

Mobilization of financial resources

136. As in earlier years, UNIDO assisted African countries in identifying and preparing sound investment projects and finding both domestic and foreign investment. However, this form of industrial co-operation went beyond investment to include marketing expertise, plant and equipment, technical know-how and licences, management support and training of local staff. The increase in activities was evidenced by the steady growth in technical co-operation provided to the African region. The increase may be attributed to the continued indebtedness of developing countries leading to curtailed private lending, and therefore many countries looking to other sources of financing, particularly direct foreign investment.

137. In view of the critical economic situation of many african countries, particular attention was given to that region in 1989 and thus three major promotional programmes took place. Within the framework of Africabat 1989 at Dakar (Senegal) 15 African investors discussed implementation of investment projects in the building materials sector with potential partners from European countries. Jointly with the European Economic Community (EEC) and the Central African Customs and Economic Union (UDEAC), for the third time, a programme was held for identification, preparation, promotion and follow-up of investment projects in food industries and wood processing for Central African countries. This programme was held at Yaoundé (Cameroon) in December 1989. In May 1989, an Investment Project Promotion Forum was held at Freetown (Sierra Leone) for five English speaking West-African countries (the Gambia, Ghana, Liberia, Nigeria and Sierra Leone). Two hundred and thirty five projects, mainly in agro-related and building materials industries, were identified and

presented for bilateral negotiation. At the Forum, 77 letters of intent were signed; follow-up showed that one project in Ghana was implemented and 18 projects were being finalized.

138. Preparatory assistance was provided in project identification and promotion to the Ghana Investment Centre, the Mano River Union and Uganda Manufacturers Association and assistance was extended to Sierra Leone in the establishment of a centre for project identification and promotion. Other activities undertaken in Africa during the year included preparation of investors guide books for the Gambia, Ghana, Liberia, Nigeria, Sierra Leone and Zambia; an investment promotion tour to Europe was organized for a group of Zambian businessmen and Government officials; an expert group meeting on project selection, promotion and follow-up for countries of the PTA was convened in Vienna in October 1989 for Eastern and Southern African States; twenty eight investment projects were identified and promoted for an investment promotion tour to Europe organized for 18 Zambian businessmen and Government officials; and 179 investment projects were identified in agro-related, building materials and chemical industries in 16 PTA member countries for presentation during the Forum in May 1990.

Intra-African industrial co-operation

139. A major emphasis continued to be placed on strengthening intra-African industrial co-operation through the provision of short-term advisory services to and consultations with various sub-regional organizations in the areas of industrial planning and enhancing institutional capacities. Multinational or sub-regional intra-African co-operation received particular attention of the Ninth Meeting of the Conference of African Ministers of Industry which was held in Harare (Zimbabwe) from 29 to 31 May 1989. UNIDO in cooperation with ECA organized two follow-up sub-regional meetings on the promotion of intra-African industrial co-operation within the framework of IDDA: one was held at Dakar (Senegal) from 30 October to 3 November 1989 and the other at Bamenda (Cameroon) from 28 November to 2 December 1989. At both meetings, revised sub-regional co-operation programmes were adopted and recommendations on strengthening training, consultancy and entrepreneurial capabilities in the sub-regions.

140. A meeting of high-level experts was also held at Vienna (Austria) from 25 to 29 September 1989 on the formulation, planning, negotiation, implementation and monitoring of

multinational industrial projects. Work has since started on elaborating an appropriate monitoring system at the national regional and sub-regional levels.

141. A meeting was held in November 1989 in Algiers (Algeria) on the establishment of the African Iron and Steel Association, as was a workshop in Novi Sad (Yugoslavia) in September 1989 on enterprise-to-enterprise co-operation in the food-processing sector, with particular reference to grains, meat-, fruit- and vegetable-processing, where the emphasis lay on the Africa region. A workshop on small- and medium-scale industries in the Preferential Trade Area for Eastern and Southern African States (PTA) was also held in Kampala (Uganda) from 10 to 15 October 1989.

142. A forum for appropriate industrial technology was held at Dakar (Senegal) in November 1989, while a conference on national and international co-operation for the telecommunications industry in Africa was held a month later at Arusha (Tanzania). A working meeting on co-operation in the field of agro-industries between Brazil and African countries was held. Preparation for other meetings reached advanced stages of preparation, namely a meeting on the application of modern technologies in the engineering industry in North Africa, a donors' conference of financing industrial manpower development programmes and projects in central and West Africa as well as another donors' conference convened as a follow-up to the Afro-Asian co-operation Meeting held three years earlier in New Delhi (India).

143. As in previous years, close co-operation was maintained throughout the year between the Secretariats of the OAU, ECA and UNIDO. In addition to the joint inter-secretariat committee which held its Ninth Meeting in Addis Ababa (Ethiopia) in February 1989, UNIDO participated in meetings of the Inter-agency Task Force on the follow-up to the United Nations Programme of Action for African Economic Recovery and Development 1986-1990 (UNPAAERD) which took place in Cairo (Egypt) from 9 to 15 January 1990.

144. Worth noting are, in particular, the efficient co-operation of the three Secretariats in preparation for the proclamation of a second IDDA and the initial agreement reached between UNIDO and ECA on the contribution that the two organizations could make to the preparation of the programme for the new Decade, as was duly reflected in resolution 44/237 adopted on 22 December 1989 by the United Nations General Assembly, proclaiming the years 1991-2000 Second IDDA.

ECDC/TCDC activities

145. As in the past, a strong emphasis was placed on UNIDO activities related to ECDC/TCDC as part of the technical assistance programme in African countries. These included solidarity ministerial meetings and industrial co-operation workshops.

146. A solidarity ministerial meeting was held in the Republic of Guinea, in December 1989. Over 30 well-prepared projects were examined which attracted an active interest on the part of 15 potential co-operating partners. A number of agreements were reached and a well-defined follow-up action was endorsed. Solidarity ministerial meetings held earlier have resulted in several technical co-operation projects: e.g. completion of studies for the establishment of a tannery and a small hydro-power station in Burkina Faso; a survey for the development of the leather industry, training of personnel in the field of aquaculture and development of the ceramic industry in Cape Verde; and establishment of a standardization and quality control unit in Mali.

147. In support of the IDDA programme, a working meeting on co-operation between Brazil and 16 African countries in the field of agro-industries took place in Sao Paulo (Brazil) from 6 to 10 November 1989 which resulted in the identification of various areas of co-operation, covering training, institutional development, etc.

148. In co-operation with the Arab Iron and Steel Union (AISU), an expert group meeting on the establishment of the African iron and steel association was held in Algiers (Algeria) from 12 to 16 November 1989. The meeting, attended by representatives from 12 African countries, recommended the establishment of the association, adopted the draft statue and agreed to convene the constitutive assembly of the African iron and steel association in 1990. It also requested UNIDO and AISU to ensure the preparation of the proposed assembly.

149. Co-operation on research and development in petrochemical industry between North African and Middle Eastern countries received a special boost in 1989 through the organization of an expert group meeting in Izmir (Turkey) from 16 to 20 October 1989, which was attended by 17 leading experts and researchers from 11 countries.

150. Preparations, including elaboration of 30 project portfolios, were completed for a donor's conference to be held in Cameroon in early 1990.

151. As a follow-up to an earlier meeting, further actions were taken for the promotion of industrial co-operation among Islamic countries. It covered mainly the preparation of six feasibility studies and of four detailed techno-economic studies in Cameroon, the Gambia, Niger and Somalia, which were submitted to potential co-operating partners from Turkey, Pakistan, Iran and United Arab Emirates.

152. As a follow-up to an expert group meeting on the processing of raw materials held in Vienna in 1988, a substantive contribution was provided to the preparation, organization and holding of the first meeting of the action committee on raw materials of the Group of 77, held in Abuja (Nigeria) in April 1989. At this meeting ECA presented two papers on the Processing of local Raw Materials into usable and Tradable Products.

Section III
Appraisal of the implementation of IDDA-related projects

153. This section III of the report provides an appraisal of the impact of selected projects carried out during the biennium 1988/1989, a review of the constraints encountered and proposals for accelerating the implementation of the programme.

A. Impact of IDDA-related projects

154. An overall assessment of the impact of some of the projects carried out since the proclamation of the IDDA was provided in the Eighth Joint Progress Report in 1989. The findings and conclusions of that report remain basically valid for 1988/1989. The present report therefore highlights only some aspects of those achievements which were particularly relevant at the end of the biennium. The priority areas on which UNIDO concentrated its project-related activities during that period continued to be pilot and demonstration plants, industrial manpower development, industrial institutional infrastructure, technical advisory services, industrial studies, follow-up on the implementation of sub-regional programme and publicity of the Decade. However, in view of the most urgent developmental needs of African countries the first three of these areas received special UNIDO attention while ECA concentrated on policy and institution building and industrial manpower development.

Pilot and demonstration plants

155. Under this component of the Decade programme, projects were carried out in the areas of food processing, pharmaceuticals, building materials, energy repair and maintenance of agricultural machinery, appropriate technology transfer and wooden and paper products manufacturing. These projects contributed to the development of entrepreneurial capabilities for small-scale entrepreneurs, the adaptation of foreign technologies through prototype production and packaging, training in bulk production, quality control, maintenance of equipment and training of manufacturing and testing engineers and trainers and progressing from development of one product to another. They also contributed to increased food production, development and use of renewable energy sources and local raw materials, as well as generation of employment and income.

Industrial manpower development

156. The projects carried out under this component of the Decade programme were implemented in the form of seminars, workshops, study tours, fellowships, and institution strengthening. They made a significant contribution to strengthening the capacities of existing and new African training institutions mainly through the promotion of sub-regional co-operation among them. They have also facilitated the establishment of linkages between the training institutions and the industrial sector, the development of entrepreneurial capabilities for women and the improvement of managerial and planning capabilities in both the private and public sector. These projects enhanced the development of maintenance systems at enterprise level. They also strengthened project identification, formulation and evaluation in selected African countries. The same obtained in respect of the capabilities for pre- and feasibility studies and evaluation and technology acquisition and negotiation.

Industrial institutional infrastructure

157. Under this component of the Decade, the projects carried out contributed to enhancing institutional support for industry, particularly through improving the effectiveness of institutions dealing with the formulation and monitoring of industrial policies, plans and programmes as well as those responsible for technology development and acquisition, standardization, testing and quality control, engineering and industrial information promotion. The activities of some

research and development centres were also streamlined and realigned with the requirements of industrial production and development.

Technical advisory services

155. The services provided and activities carried out under this component of the Decade programme resulted in the improvement of the design and implementation of a number of industrial projects and programmes as well as the alleviation or solution of various problems, difficulties and constraints facing African Governments, public and private enterprises, technical and industrial information and promotion institutions in a wide range of industrial and related areas. These covered inter-alia industrial planning: review, adjustment and elaboration of industrial policies and sectoral plans: preparation of industrial project profiles, pre-investment studies and tender documents: evaluation of industrial investment projects: industrial manpower planning, development of technological capabilities, improvement of the utilization of existing installed industrial capacity: readjustment and strengthening of national industrial institutional machinery.

Industrial studies

159. The projects carried out under this programme component covering a number of rehabilitation studies laid a basis for mobilizing the required technical and financial assistance in terms of equipment and spare parts, managerial and technical capabilities for ailing industries in Africa. Other studies and surveys dealing with problems raising in industrial sub-sectors and related areas such as energy, natural resources, manpower planning and institution building on strengthening contributed to the deepening of the relationships between industry and input sectors and the improvement of decision-making for the promotion of integrated and self-reliant industrial development.

Industrial sub-regional co-operation

160. Under this programme component, the follow-up sub-regional meetings which were organized resulted in the updating and promotion of portfolios of both technical assistance and investment projects identified in industrial core sub-sectors and support areas for implementation at the multinational level. A number of such projects received support from Government and potential local private investors. This laid the basis for the preparation and organization of investment promotion meetings and the harmonization and co-ordination by concerned Governments of their industrialization efforts.

B. Major constraints on the achievement of the objectives of the Decade

161. The main objective of the IDDA was to promote self-reliant and self-sustained industrial development in African countries through contributing to the creation of a basis for bringing about structural transformation of industry. This involves a shift from external to internal engines of growth and the provision of a long-term perspective for sustained socio-economic development. To this end, there was a need and indeed a pre-requisite for establishing a minimum integrated structure of basic industries which would be mutually supportive and provide the inputs and impetus to other industries and economic sectors.

162. The mid-term evaluation report on the implementation of the IDDA has confirmed the fact that nearly no progress had been made in achieving the basic objectives of the Decade. The host of complex constraints which account for that failure are common knowledge nowadays. The major ones include the following:

(a) Structural weaknesses

These include:

- Prominence of light industries and lack of a minimum integrated structure of core industries with backward and forward linkages, particularly with agriculture, transport and communication, energy, natural and human resources;

- Small-size of domestic market and inadequate market integration both at the national and sub-regional levels;

- The existence of persistent unproductive or underutilized installed capacity which is itself due to a wide range of factors including choice of technology or the failure to plan and realize linkages;

- The concentration on easy import substitution involving capital intensive durable consumer parts and components for assembly or capital equipment for the production of consumer goods;

- Extreme dependence on imported factor inputs from developed countries, the most obvious of which are raw and intermediate materials, energy, entrepreneurship and management; experienced middle level supervisors and

operators, spare parts, implements and tools and services;

- The absence of important components of basic engineering facilities (foundry, forging, heat treatment, machining, tool room, galvanizing, phosphating and electroplating etc., repair and maintenance). The absence of such components stifles the local production of parts, components, implements and tools;

- Marked deficiencies in institutional infrastructure including failures in interdepartmental co-operation, neglect of reform of public enterprise associated with great dependence on foreign private enterprise and TNCs, inadequate consultations with private sector.

(b) Inadequate and inefficient industrial strategies, policies, planning and institutional infrastructure

163. Lack of appropriate policies and efficient institutional mechanism to promote accelerated industrial development and in particular address the weaknesses and constraints mentioned in (a) above. These include inadequate involvement of both the private and the informal sectors in the industrialization efforts and weak follow-up mechanisms for post-project activities.

(c) Lack of political commitment to market and resources pooling at the sub-regional level and establishing multinational projects

(d) Lack of major factor inputs

(i) Human resources:

- Shortage of trained industrial manpower capable of handling all aspects of projects and programmes from design to actual implementation;

- Lack of entrepreneurship;

- Lack of managerial and technical skills and capabilities;

- Lack of repair and maintenance capabilities;

- Lack of technological capabilities, particularly for technology assessment, development, acquisition, adaptation and negotiation.

(ii) Natural and energy resources:

- Lack of exhaustive inventory and adequate knowledge of country's or sub-region's resource base (natural resources, raw materials, energy resources, both new and renewable);
- Unplanned utilization of local resources;
- Inadequate and untimely supply of agricultural raw materials.

(iii) Financial resources including foreign exchange:

- Decreasing export earnings;
- Over-increasing prices of imported industrial inputs;
- Decreasing industrial investment resources;
- Low investment return;
- Mounting external debt;
- High interest rates.

(e) Exogenous factors

- Diminishing flow of financial investment and technical assistance resources from external sources;
- Collapsing prices of Africa's exports on international markets and consequent deterioration of Africa's terms of trade;
- Serious balance-of-payments problems;
- Straining impact of the operations of transnational corporations;
- Straining impact of structural adjustment programmes on investment, particularly in the industrial sector.

164. The above constraints and problems have combined to lead to low industrial performance in Africa as a whole. Two problems

need to be flagged which had a fundamental and straining bearing on the impact of the projects and activities carried out under the IPDA programme.

165. The first one is related to the limitations of the very concept and pattern of the technical assistance and investment projects. In addition to the macro-economic problems which have given rise to serious difficulties at the level of individual industries and even plants, the manufacturing sector continued to suffer from other factors as well. During the early stages of industrialization, projects were often based on overly optimistic assumptions of domestic market demand growth, availability of local raw material, export prospects and the development of supportive national infrastructure. In many instances, investments have also been made on the basis of project concepts that were technologically too complex to be sustained over the long term without significant foreign assistance. Therefore, many infant industries have tended to remain weak and financially vulnerable. In many projects, insufficient support in the form of training and other essential auxiliary inputs tended to affect productivity drastically. Specific pricing, trade and industrial policies have in many cases distorted product markets and production conditions. In other cases, especially in the food processing industry, anticipated raw material supplies to manufacturing proved to be insufficient, irregular or even non-existent. In this connection, the perpetual problems of the agricultural sector constitute a particularly serious obstacle to renewed industrial growth.

166. Given the many constraints on its development, it comes as no surprise that structural change in African industry has been slow. Although a shift away from the dominant sub-sector - food products - is discernible in many countries, the share of industries that are leaders in other developing economies - such as electronics, garments and transport equipment - has on the whole remained very modest. Major capital goods or export-oriented industries are uncommon in Africa. Opportunities to diversify and expand industries through the exploitation of regional markets and through regional co-operation have only been marginally explored.

167. The second problem is associated with the project-by-project approach that has been adopted so far in designing and implementing technical assistance investment projects. This has led to lack of co-ordination of the projects with other activities in the sub-sector and in the country as well as systematic co-ordination of international co-operation. Technical assistance activities have often been carried out in isolation from Governments' fiscal, monetary and economic policies, without taking into account all their wide-ranging

implications and considerations such as the financial requirements, market possibilities and the availability of raw materials and intermediate outputs. This approach has frequently resulted in projects that were too narrowly focused. Concentration on solving individual problems has entailed the risk of other problems being ignored. The diversity of economic activities and economic potential at the micro-level has not always been appreciated. This has led to the need for adopting the integrated programme approach.

168. The Secretariats of the ECA and UNIDO were also faced with constraints in undertaking their activities in support of the IDDA programme. This included the mainly inadequate financial resources to effectively respond to the increased needs of member States and sub-regional organizations and the lack of feedback and responses from member States to requests by the Secretariats for information and data on the implementation of IDDA programmes. The same holds true for the sub-regional organizations.

Section IV
Proposals for accelerating the implementation of the IDDA Programme

169. In the light of the experience of the eighties and the major constraints outlined in section III, it would appear essential during this end period of the first IDDA that African Governments and sub-regional organizations take drastic steps and adopt new approaches towards rapid industrialization in the continent. This should aim at alleviating some of the difficulties encountered while laying the groundwork for the Second IDDA. To this end, it should be emphasized that the adoption of a high number of resolutions is not sufficient to yield the desired results. There is a need for strong political will and commitment which should be translated into concrete actions. The following is a set of proposals for the consideration of African Governments and organizations.

(a) Industrial strategies, policies and planning

(i) Need for according higher priority to industry, especially those industries supporting food production and agricultural development;

(ii) Need to translate the priority given to industry in deeds, particularly in deciding on the resource allocation, negotiations with domestic and foreign investors, donor countries and financial

institutions as well as in planning the development of other sectors;

(iii) Need to shift away from the traditional project-by-project approach to the integrated programme approach. This approach involves a full diagnosis of the industrial sector including its linkages with other sectors specially agriculture, transport and communications, energy and environment as well as the support areas, particularly human resources development, technology, institutional framework and financing. It involves also the formulation of desirable industrial sub-sectoral strategies, the identification and costing of a package of related investment and technical assistance projects and the definition of a package of related policy measures;

(iv) Need to prepare an integrated package of industrial sub-sector programmes based on the programme approach and leading to a core programme for the Second IDDA;

(v) Need to promote and seek funding for that programme from various relevant sources including IPF resources and other multilateral and bilateral donors and financial institutions as well as domestic and foreign investors;

(vi) Need to ensure a sufficient degree of co-ordination between national sectoral policies and related supporting institutions as well as the required co-operation among various development assistance organizations;

(vii) Need to undertake the following activities:

1. An agonizing appraisal of the industrial development performance and policies

What needs to be done first and this exercise would call for integrity and courage, is for each Government to undertake an agonizing and candid evaluation of the progress of industrialization in the country during the last Decade. The mid-term evaluation of the IDDA carried out by the independent team of experts covered the entire continent and as such tended to be a bit generalized. The specific situation in each country has to be reviewed and studied (the country report prepared by the Evaluation Team as background material may be useful in this context).

The exercise should cover, inter alia, the following aspects:

- The status of industrial development or de-industrialization in the country or sub-region concerned in 1990 as compared to 1980; the trend in the Gross Domestic Product; per capita incomes; industrial production; new investments; capacity utilization; productivity; industrial exports; human skills and technological capabilities; sub-regional co-operation;

- The same exercise should assess the industrial policies and strategies implemented so far. This would involve in particular reviewing the role of the State, the private sector, foreign investment, and the various related policy instruments (fiscal, monetary, investment code, trade laws, etc.).

170. This exercise would need to be a domestic operation conducted on a multi-sectoral basis, involving political leaders, administrators, enterprise managers, banks, private sector, engineering and consulting firms, agents of distribution and academics. It is an essential starting point for the next exercise, namely, the preparation of a national industrial development plan for the Second IDDA.

171. To this end, a new tool of action suggested is the industrial strategic management approach which involves a co-ordinated process of concertations among all economic agents in the industrial sector and sub-sectors and their respective environment, addresses the problems at the organizational level as well as in technical and other terms, requires a shift from the traditional concept of a plan being more or less rigid package of individual projects and the use of the integrated programme approach and enables all the intervening in the industrial sector and its environment through roundtable consultations to elaborate sectoral and sub-sectoral strategies and action plans (including both industrial restructuring and supporting measures), paying due consideration to (i) the actual endowments of the sector, (ii) the objectives set for its development and (iii) the changing external conditions.

2. Financial resource requirements and mobilization

172. The analysis of the performance of the IDDA points out that the major constraint to accelerated industrialization in African countries during the eighties was lack of or inadequate resources for industrial investments and the

underlying adequate capacities for funds mobilization, poor economic management and insufficient capacity and resources for identifying financially viable projects and prepare the related pre-investment studies.

173. A major effort would have to be made to stimulate domestic private investment and to attract foreign capital. In this context a review of investment codes and examination of the constraints they impose on foreign investors needs urgent priority.

174. The exercise of mobilizing funds is an intrinsic part of the preparation of the Industrial Development Plan for the nineties.

3. An investment portfolio

175. One of the major recommendations of the IDDA was that each country should prepare a portfolio of industrial investment projects, keeping particularly in mind the need to develop the core sector and to stimulate the development of and the use of domestic factor inputs. The recommendation is yet to be translated into a reality in most African countries. A well-articulated and investor or donor attractive investment portfolio should rest on the hard bedrock of national endowments, national capabilities, national markets and above all national aspirations.

176. To this end it is necessary to prepare feasibility studies and project reports which examine all aspects of the projected investment technology, raw material availability, human resource availability, adequate markets and financial viability. Social cost-benefit considerations are also of significance. There is a need to build up domestic capability for undertaking the preparation of such feasibility studies. In the interim, the external assistance could be required.

4. Regeneration of existing industries

177. The manufacturing sector is of crucial importance to the recovery and renewed growth of the African economies. Africa thus faces the urgent task of rehabilitating those crippled industries that are viable, starting a general process of revitalizing industrial structures and exploring new sources of growth.

178. Manufacturing enterprises should be studied in relation to their economic environment. Diagnostic analyses and remedial action programmes should cover the entire range of technical, managerial and technology issues at the plant level as well as the overall financial, commercial and structural issues at the branch and macro-economic levels. An approach covering

all these issues would be a "top-down" approach. It would start with an examination of the macro-economic level, descend through the sector, sub-sector and branch levels and arrive finally at the plant level.

179. On the basis of that approach, the first task is to identify suitable enterprises where scarce foreign exchange and other investible resources will be most efficiently used to upgrade production and plant performance, thus ensuring the greatest impact on overall growth. Industrial rehabilitation may actually lead to plants being recommended for closure as a necessary part of efforts to establish an industrial structure with better prospects for sustained growth.

180. The second task is to combine the plant rehabilitation process with a restructuring programme of the industrial sector as a whole so as to ensure growth, domestic economic integration, and/or the provision of support industries and services. Such a programme would entail investment in new capacities in industry, infrastructure, services ad primary commodity production. The third requirement is to adjust the policy and administrative framework to support better the domestic and international efforts towards the industrial regeneration objective.

181. A rehabilitation programme need to be formulated to regenerate existing ailing industries, particularly in the public sector. It is suggested that the Ministries of Industry should set up a special wing for conducting the diagnostic studies and proposing remedial action. This would also involve privatization of public sector industries which are not rehabilitable with the sole means available to the State.

5. Programme for developing repair and maintenance capabilities

182. In support of the rehabilitation programme, there would be a need for studies to be initiated into existing maintenance practices and schedules of preventive maintenance should be laid down, particularly for enterprises in the public sector. A repair and maintenance capabilities development programme should be prepared and implemented under the co-ordination of the Ministry of Industry, to undertake the task, including the drafting of maintenance manuals.

183. The possibility of producing spare parts within the country should be explored. In this context the experiment being tried out in Uganda is relevant. On the one hand, a critical list of spare parts required by industries is being inventoried. On the other, an inventory of small workshops,

forges, foundries and metal shops is being prepared. Hopefully, a marriage can be arranged. Of equal relevance is the more ambitious project commenced in Ethiopia to set up a spare parts factory, with Italian technical assistance.

6. Reactivation of agents of production and distribution

184. The efficacy of policies, strategies and plans hinges on the effectiveness and responsiveness of the economic operators. These include the public enterprises, the private enterprises, the small-scale sector and the informal sector. There is therefore a need to provide them with the wide range of the required factor inputs and a conducive, propicious macro-economic and sectoral environment. The following is among the measures to be considered:

(a) Providing a better environment for enterprises and other economic operators through appropriate policy and institutional packages

185. The most limiting factor on accelerated industrial development in African countries is not only the lack of entrepreneurship and financial resources but mostly the weaknesses in the policy environment which inhibit effective investment and the factors it carries (capital, technology, skills development, employment, etc.).

186. The problem has to be addressed on a series of levels extending from the policy and institutional measures through the role of public enterprises and transnational corporations to the local production of factor inputs. The following suggested measures would have to be complemented by policy and structural adjustments as well as international measures.

(i) Identifying core industrial sectors and their linkage systems and building up national capability in planning and designing their development;

(ii) Development of a data and informarion base essential to restructuring the domestic economy. This will include national income and expenditure surveys; inventories of scarce factor inputs; industrial output trends; the balance of payments on he services account; data on MVA, particularly relating to core industries. National survey data is essential to developing policies for domestic and external market development as well as planning linkages;

(iii) Improving the professionalism and sense of commitment of ministries and agencies involved in

the industrialization process, such as those concerned with industry, planning, agriculture, education, transport and communications, labour, natural resources and finance, as well as development banks and corporation and support service institutions. Equally important will be efforts to compel such ministries and agencies to co-operate with each other in the interest of national survival;

(iv) Improving the professionalism, a use of commitment, freedom to innovate, etc., of local public and private enterprises and R & D institutions;

(v) Undertaking reviews of economic co-operation concepts and institutional arrangements. Economic co-operation arrangements should give high priority to develop the production and trade in raw materials, intermediates and such capital goods as equipment for transport and communications, agriculture, water, mining and other natural resources, energy, building and construction, especially the joint production of standardized parts;

(vi) Regulating the involvement and impact of foreign private enterprises and promoting the establishment of African multinational enterprises;

(vii) Reviewing policies, priorities, criteria and control mechanisms for the allocation of resources to factor input imports, with a view to establishing, for example, the priority to be given to the local production of the *viscerals* the local production of spare parts, fertilizers and agricultural machinery.

(b) Public enterprises and Transnational Corporations (TNCs)

187. Measures will have to be adopted to make public enterprises more effective and redefine their performance criteria or otherwise face the problem of relying on foreign transnational corporations. These performance criteria could include helping to generate skilled manpower; providing viral intrasectoral or intersectoral linkages; making meaningful contributions to R & D; and helping to develop, organize and assist medium- and small-scale indigenous enterprises within the respective sector or sub-sector.

188. As for the transnational corporations, policy-makers and planners should determine:

(i) The role that is really envisaged for foreign enterprises, especially TNCs to play;

(ii) The period during which they intend to entrust foreign TNCs with specific critical roles in the process of structural transformation, such as the development of indigenous factor input supplies to meet national needs;

(iii) The successors or alternatives they intend to rely on and the steps they will take to build up these alternatives or successors.

(c) Local production of factor inputs

189. The measures to be taken would need to accord priority to the emergence of entrepreneurs and managers; development of manpower for procurement, production and distribution; complementary raw and intermediate materials including energy; equipment spares, implements, tools, instruments; technology (not embodied in persons or in equipment); physical and institutional infrastructure; services; intra-African co-operation; and the expansion of domestic and sub-regional markets.

190. Thought must be given to accelerating the production of indigenous factor inputs on a national, sub-regional or regional basis. These should be conceived mainly in terms of the core projects and the related linkage systems.

(d) Human resources

191. Human resources constitute the first, largest and most crucial factor input. Attention is drawn to several sub-groups:

(i) Policy-makers and planners and other principal actors

Measures to enhance capabilities for policy and decision making would include the organization of intensive audio-visual courses and highly specific study visits to familiarize such persons with such aspects as the physiology of industrial production (including core industries and their linkages), factor input supplies, procurement, marketing and distribution and support services. Planners in particular need to be introduced to new techniques, concepts and approaches;

(ii) Entrepreneurs

The development of local entrepreneurship is essential if the external over-dependence of African countries on this important category of industrial manpower is to be reduced.

Even in a small country fairly well-endowed with natural resources, it can safely be assumed that industrial entrepreneurs must number many tens of thousands. They would range from state enterprises in the natural resources/industrial raw materials field, to sub-contractors producing parts and components for vehicles or machines, to small-scale enterprises producing such items as implements, tools, nails, screws, bolts, belts and small generators. Whilst a few hundreds or even thousands of foreigners may be induced to take up the entrepreneurial burden, success will depend on local entrepreneurs in a broad variety of sectors and locations. Special policy measures and appropriate incentive schemes would have to be adopted.

(iii) Management

Measures required to enhance the development of managerial capabilities would include improving programme and facilities for the education and training of managers that take African realities into full consideration. This is important since it is not often fully understood how much management is related to history, culture and technology (material and social). In most African countries, current programmes continue to be based on foreign models.

(f) Services

African Governments urgently need to:

(i) Review trends in the volume and composition of service imports;

(ii) Hold consultations with public enterprises, selected foreign and domestic private enterprises on their requirements for, and experience of, consultancy services in regard, in particular, to the implementation of core linkage projects;

(iii) Hold consultations with indigenous consultancy organizations on methods for and their role in meeting those needs;

(iv) Mobilize the co-operation of other third world countries (especially newly industrializing countries) in the supply of consultancy services and in the development of local consultancy capabilities;

(v) Consider measures for developing local and multinational substitutes for other imported services other than consultancy services.

(g) Raw and intermediate materials

193. The measures which African policy-makers and planners need to take include the following:

(i) Formulation of policies and programmes to deal with raw and intermediate materials production, trade and procurement;

(ii) Production of an industrial map of Africa at national and sub-regional levels, however rough, which would provide basic information on the possibilities of increasing material complementarities through production and trade;

(iii) Establishment of bilateral and or multilateral working groups to examine the feasibility of joint production, transportation and trade by barter or other arrangements which require minimum use of international currencies.

7. Intra-African co-operation

193. African governments urgently need to allocate financial and human resources to the intensification of intra-African industrial co-operation, within the framework of the LPDA, especially in the development of strategic core industries to serve the needs of the economies of a sub-region or group of countries. This would call for the establishment of African multinational enterprises and clearing houses in priority strategic core industrial sub-sectors. In this regard, there appears to be a need for the preparation of guidelines, in the form of a "model framework", for the establishment of these multinational enterprises and trading companies.

194. In connection with the above, the African Industrial Development Fund should be strengthened. This would be used not only to finance pre-investment studies but also to provide credits and guarantees, especially for multinational projects. It would also help to reinforce the efforts being taken at the national level through the establishment of industrial development banks and at the regional/sub-regional level through the African Development Bank and sub-regional development banks.

8. Policy and structural adjustments

195. Decision-makers would need to undertake economic policy and structural adjustments related, in particular, to:

(a) National resource allocations with a view to according priority to accelerated industrial growth in African countries closely tied with the other economic sectors, especially the agricultural construction, transport and communications sectors and support areas;

(b) Rehabilitation of potentially viable projects and improvement of their management, production, operational efficiency and profitability, including readjustment of original contractual (especially financial and management) arrangements, as well as opening up new markets for their products and finding new sources of raw material supply, especially from local resources;

(c) National procurement procedures with a view to streamlining purchasing practices and strengthening existing arrangements at the regional or sub-regional level, including joint negotiations, importation and distribution of major industrial and other commodities;

(d) Criteria for identifying African foreign exchange requirements in the short- and medium-term, including essential foreign investment and exchange requirements of industry;

(e) More effective identification and planning of the nation's foreign exchange requirements for essential industrial commodities with a view to reducing wastage. This would include proposals for obtaining essential foreign exchange and investment and the reduction of external debt through international negotiations, domestic substitution of imported factor inputs and improved management of the economy;

9. Measures at the international level

196. Policy and operational measures need to be taken so as to readjust the pattern and structure of external investment and ODA flows into the national economy. Every care should be taken to ensure that these resources are directed towards those projects which would contribute to the local production of industrial inputs, thus helping to reduce the national external dependence and debt

197. In that connection, existing arrangements should be reinforced and new ones established for a more effective utilization of the principal forms of industrial finance, i.e., multilateral grants and loans, bilateral grants and loans, commercial bank loan capital, direct foreign investment and trade credit. This would contribute to the progressive reversal of the present situation in which a number of industrial projects represent a constant drain on meager foreign exchange resources.

PART II
ACTIVITIES UNDERTAKEN IN PREPARATION FOR SECOND IDDA

198. The Sixth Meeting of the Conference of African Ministers of Industry held in Addis Ababa in November 1981 in approving the IDDA programme recommended that a mid-term progress review of IDDA should be undertaken in 1985.

199. The Eighth Meeting of the Conference, which took place in Bujumbura, Burundi in September 1986, reiterated the request for a mid-term review and emphasized that it should be an independent evaluation. The Conference also recommended the proclamation of a Second IDDA to accelerate the industrialization of African countries launched during the first one.

200. An independent team of experts commenced work in August 1988 and submitted its report on the independent mid-term evaluation of the Decade for Africa (IDDA) and the Proclamation of the Second IDDA in March 1989. The report was considered together with comments of the Secretariats of OAU, ECA and UNIDO and approved by the Ninth Meeting of the Conference of African Ministers of Industry held in Harare, Zimbabwe from 29 May to 1st June 1989. The Conference adopted resolution 2(IX) calling on the United Nations General Assembly to proclaim a second IDDA. In so doing, the Conference acted in line with earlier requests of various policy organs of OAU, ECA and UNIDO. In that resolution the Conference also requested the Secretariats of OAU, ECA and UNIDO inter alia to (a) prepare in the consultation with the working group of governmental experts a framework to assist member States in the elaboration of their national programmes for the Second IDDA and (b) prepare in the consultation with member States and relevant African organizations and United Nations Agencies, a zero draft of the programme for the Second IDDA. The Conference established a time table for the preparation of national and sub-regional programmes for the Second IDDA by African countries and sub-regional

organizations during the second half of 1990. The draft is expected to be reviewed by the meeting of the Working group of government experts before submission to the Fifth Meeting of the Conference of African Ministers of Industry to be held during the second quarter 1991.

201. Further call was made to the second IDDA in resolution AH /Res. 1501(XXV) of 26 July 1989 by the Assembly of Heads of State and Government of the Organization of African Unity (OAU) and resolution 1989/115 of 28 July 1989 of the Economic and Social Council on the proclamation of a Second Industrial Development Decade for Africa.

202. The Industrial Development Board at its fifth session held in July 1989 adopted decision IDB.5/Dec.7 recommending to the General Conference which was held 20-24 November 1989 the approval of a second IDDA. Endorsing the IDB decision, the General Conference in Resolution GC.5/10 of November called on the General Assembly to proclaim a second IIDA.

203. Following consideration of the report of the Secretary-General on the preparation for the second Industrial Development Decade for Africa (1991-2000) to the General Assembly at its 44th Session, the General Assembly adopted resolution A/44/835.Add.1 of 22 December 1989 proclaiming the period 1991-2000 second IDDA and 20 November as Africa Industrialization Day.

204. The Secretariats of ECA and UNIDO held consultation with the participation of OAU on the preparation of the Second IDDA and worked out the resource requirement of $1 345 900. Out of this, the United Nations earmarked $461 900. The balance of $883,900 would constitute UNIDO contribution out of the total $8.6 million earmarked by UNIDO for special programme for Africa for the biennium 1990-1991. These resources are to be used in assisting African countries and sub regional organizations in the elaboration of their national and sub-regional programmes.

205. As requested in the time table established in resolution 2(IX) of the 9th Meeting of Conference of African Ministers of Industry, the Secretariats of OAU, ECA and UNIDO prepared a framework providing guidelines to African Governments and organizations for the elaboration of their programmes for the Second IDDA. Efforts were made to accelerate consultations between member States on the finalization of the composition of the Working Group of Governmental Experts.